

## ABSTRACT OF THE DISCLOSURE

A measuring system for in-situ measurements down a well (1) by a spectrometer (4) is provided. The spectrometer (4) includes a radiation source (5) and a detector (6). A probe (15) optically connected to the spectrometer (4) and includes an optical pathway (7) for transmission of a radiation from the radiation source (5) and at least a second optical pathway for transmission of a characteristic radiation from a sample to the detector (6). A positioner is provided to position the probe (15) near a side surface (11) of the borehole (3) and to optically couple the optical pathways (7) to the side surface (11), wherein the probe (15) is traversable up and down the well (1) by way of a guide operatively connected to the probe (15) and to a fixed location at the wellhead. By use of the apparatus and method a concentration of methane or other substance of interest is obtained, and thereby, a potential production of a coal bed methane formation is obtained.